

Amendments to the Specification:

Please replace the paragraph beginning at page 8 line 9, with the following rewritten paragraph:

A position sensor of one aspect according to the present invention for detecting position of an object disposed in a first space (i.e., the purged space PE) by receiving light from the object with a light receiving element disposed outside the first space (i.e., the external space OE), the position detecting apparatus includes an optical system for directing light from the object to the light receiving element, and a first optical element transmitting light from the object, disposed in the partitioning member for partitioning the first space and space outside the first space, wherein the first optical element is located on a position on or near a pupil plane (a Fourier transform plane with respect to optical system) or a plane conjugate to the pupil plane of the optical system.

Please replace the paragraph beginning at page 10 line 16, with the following rewritten paragraph:

A position detecting apparatus of another aspect according to the present invention located across a first space and a second space that has a different pressure from that of the first space, the position sensor using light to detect a position of an object that is located in the first space, the position sensor includes a detector, located in the second space (i.e., the external space OE), for receiving the light from the object, a polarizer that defines a polarization direction of the light, and an optical element that transmits the light, partitions the first and second spaces, and is closer to the detector than the polarizer. One of the first and second spaces may be maintained vacuum or in a reduced pressure.

Please replace the paragraph beginning at page 33 line 10, with the following rewritten paragraph:

The exposure apparatus 100 accommodates a light source 110, an illumination optical system 111 [[112]], a reticle 112, a reticle stage [[stag]] 113, a projection optical system 114, a wafer 115, a wafer stage 116, various sensing optical systems, and an optical path of the exposure light and its vicinity in a purged space PE that is a closed space and purged with purge gas or vacuumed, and includes an external space OE other than the purged space PE, a diaphragm 120 that partitions these spaces, a transmission window member 130 provided at the diaphragm 120 for an optical system that is arranged across these purged space PE and external space OE, etc.

Please replace the paragraph beginning at page 13 line 1, with following rewritten paragraph:

FIGS. 8(a), 8(b) and 8(c) are FIG. 8 is schematic views showing changes at image positions on a plane that perpendicularly intersects the optical axis when a correcting optical element inclines on the optical path.

Please replace the paragraph beginning at page 13 line 7, with following rewritten paragraph:

FIGS 10(a), 10(b), 10(c) are FIG. 10 is schematic views showing part of the basic sensing optical system shown in FIG. 6.

Appl. No. 10/771,992
Paper dated January 19, 2007
Reply to Office Action dated September 25, 2006

Please replace the paragraph beginning at page 13 line 16, with following rewritten paragraph:

FIGS. 14(a), 14(b) and 14(c) are FIG. 14 is schematic sectional views showing deformations of a transmission window member which result from pressure differences.

Please replace the paragraph beginning at page 58 line 3, with following rewritten paragraph:

A position detecting apparatus for detecting position of an object disposed in a first space by receiving light from the object with a light receiving element disposed outside said first space, said position detecting apparatus includes an optical system for directing light from the object to the light receiving element, and a first optical element transmitting light from the object, disposed in a [[said]] partitioning member for partitioning said first space and space outside said first space, wherein said first optical element is located on a position on or near a pupil plane or a plane conjugate to the pupil plane of said optical system.